

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND CONTACT INFORMATION

Product Name: Copper Sticks/Wires AR 189, AR2304, AR2304-350, AR2304-500, AEB1002-500, AR140007

Alpha Resources, Inc.
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2. COMPOSITION/INFORMATION ON INGREDIENTS

CAS NO.	%W	CHEMICAL NAMES	OSHA PEL (mg/m ³)	ACGIH TLV (mg/m ³)	NIOSH TWA (mg/m ³)
7440-50-8	100	Copper	1.0 (dust) 0.1 (fume)	1.0 (dust) 0.1 (fume)	1.0 (dust) 0.1 (fume)

3. HAZARD IDENTIFICATION

POTENTIAL HEALTH EFFECTS

EYES: Causes eye irritation.

INHALATION: Dust is irritating to the respiratory tract. Fume inhalation may cause metal fume fever. Flu-like symptoms include metallic taste, fever chills, weakness, chest pain, cough, muscle pain and increased white blood cell count.

SKIN: Causes irritation. May cause skin discoloration.

INGESTION: causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause liver and kidney damage.

CHRONIC OVEREXPOSURE: Prolonged or repeated skin contact may cause dermatitis. May cause liver and kidney damage. May cause lung damage. Individuals with Wilson's disease are more susceptible to chronic copper poisoning.

ACUTE OVEREXPOSURE: See above.

CARCINOGENICITY: Not listed by ACGIH, IARC, NIOSH, NTP or OSHA.

4. FIRST AID MEASURES

EYES: Immediately flush with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid.

INHALATION: Removed from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

SKIN: Immediately wash skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing.

INGESTION: Induce vomiting. If victim is conscious and alert, give 23-4 cupfuls of milk or water. Get medical aid. Use of a metal chelator may be of value.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

Non-flammable

Flash Point: None

Flammable Limits: (% by Volume in Air): Lower: None Upper: None

AUTO-IGNITION TEMPERATURE: N/A

EXTINGUISHING MEDIA: Use extinguishing media appropriate for surrounding fire.

FIREFIGHTING INSTRUCTIONS: Wear a self contained breathing apparatus in pressure demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Material can spontaneously ignite when exposed to air at normal or slightly elevated temperatures.

6. ACCIDENTAL RELEASE MEASURES

SMALL/LARGE SPILL: Wear suitable protective clothing. Carefully sweep up and place into a suitable container for disposal. Avoid generating dust.

7. HANDLING AND STORAGE

HANDLING: Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes and skin. Avoid ingestion and inhalation.

STORAGE: Keep container closed. Store in a cool, dry, well ventilated area away from incompatible substances. Do not expose to air.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Use general or local exhaust ventilation to meet exposure limits.

RESPIRATORY PROTECTION: Follow OSHA respirator regulations and always use a NIOSH approved respirator when necessary.

SKIN AND HAND PROTECTION: Wear appropriate gloves and protective clothing to prevent skin exposure.

EYE AND FACE PROTECTION: Wear appropriate protective eyeglasses or chemical safety goggles.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Red to brown metal

BOILING POINT: 4703F (2595C)

FREEZE-MELT POINT: 1981F (1083C)

VAPOR PRESSURE: 1 mm Hg at 1628

VAPOR DENSITY: N/A

SOLUBILITY IN WATER: Insoluble

SPECIFIC GRAVITY: 8.92

pH: N/A

ODOR: None

PERCENT VOLATILES: 0 AT 70F (21C)

EVAPORATION RATE: N/A

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable at room temperature in closed containers under normal storage and handling conditions.

INCOMPATIBILITY: Liquid copper explodes on contact with water. Reacts violently with Ammonium Nitrate, bromates, iodates, chlorates, Ethylene Oxide, Hydrazoic Acid, Potassium Oxide, Dimethyl Sulfoxide/Trichloroacetic Acid, Hydrogen Sulfide/Air, and Lead Azide. Ignites on contact with Chlorine, Fluorine (above 121C), Chlorine Trifluoride and Hydrazinium Nitrate (above 70C). Incompatible with 1-Bromo-2-propyne, Potassium Dioxide and acetylenic compounds.

HAZARDOUS DECOMPOSITION PRODUCTS: Copper fumes.
HAZARDOUS POLYMERIZATION: None.

11. TOXICOLOGICAL INFORMATION

Experimental studies show teratogenic and tumorigenic effects in laboratory animals.

12. ECOLOGICAL INFORMATION

None available.

13. DISPOSAL CONSIDERATION

Dispose in accordance with all applicable federal, state and local regulations.

14. TRANSPORTATION INFORMATION

USA DOT: Not regulated

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS

TSCA STATUS: On toxic Substance Control Inventory

CERCLA Reportable Quantity: Copper, 5000 pounds

RCRA Status: Not regulated

SARA TITLE III:

Section 302 Extremely Hazardous Substances: None

Section 311/312 Hazardous Categories: Acute, Chronic, Flammable

Section 313 Toxic Chemicals: Copper

Copper is listed as a priority pollutant and toxic pollutant under the Clean Water Act.

SUPPLEMENTAL INFORMATION

The data and information as stated was furnished by the manufacturer/vendor &/or supplier of this product. Alpha Resources, Inc. cannot warrant the accuracy of this information and shall not be responsible or liable for any damage that may result, should any of the information be erroneous.

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